

EUV DIFFUSER PLATE AND METHOD OF MAKING SAME

ABSTRACT OF THE DISCLOSURE

An electromagnetic radiation diffuser, operative at extreme ultraviolet (EUV) wavelengths, is fabricated on a substrate. The diffuser comprises a randomized structure having a peak and valley profile over which a highly reflective coating is evaporated. The reflective coating substantially takes the form of the peak and valley profile beneath it. An absorptive grating is then fabricated over the reflective coating. The grating spaces will diffusely reflect electromagnetic radiation because of the profile of the randomized structure beneath. The absorptive grating will absorb the electromagnetic radiation. The grating thus becomes a specialized Ronchi ruling that may be used for wavefront evaluation and other optical diagnostics in extremely short wavelength reflective lithography systems, such as EUV lithography systems.

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